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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,032

04/11/2007

Yoshitsugu Morita

71,051-035

6909

27305

7590

05/08/2009

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EXAMINER

PATEL, REEMA

ART UNIT

PAPER NUMBER

2812

MAIL DATE

DELIVERY MODE

05/08/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,032	Applicant(s) MORITA ET AL.	
	Examiner REEMA PATEL	Art Unit 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-13 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakawa et al. (U.S. 2002/0015748 A1; "Yamakawa") in view of Miyajima et al. (U.S. 2002/0015748 A1; "Miyajima").

3. Regarding claims 1, 5, 8-9, and 12-13, Yamakawa discloses a curable silicone composition comprising the following: (A) an organopolysiloxane having at least two alkenyl groups per molecule (col 3, lines 28-31); (B) an organopolysiloxane having at least two silicon-bonded hydrogen atoms per molecule (col 2, lines 26-30); (C) a platinum-type catalyst (col 4, lines 32-42); and (D) a filler (col 4, lines 53-56), wherein said component (A) contains siloxane units of formula $\text{RSiO}_{3/2}$ (where R is a univalent hydrocarbon group) (col 3, line 58 – col 4, line 19).

4. Yamakawa discloses the resin may be used in manufacturing electronic devices (col 1, lines 9-12) but does not explicitly disclose using the composition with a compression molding apparatus to seal a semiconductor device. However, Miyajima discloses a compression molding apparatus using a resin to seal a semiconductor device. Miyajima discloses the semiconductor device is clamped between an upper and lower mold and a resin is fed in between the space of the molds, where after the resin is

Art Unit: 2812

subjected to compression molding ([0058]-[0063]). Miyajima discloses the unsealed semiconductor device may comprise semiconductor chips on a printed-circuit board electrically interconnected via bonding wires ([0088]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Yamakawa with using the resin in a compression molding apparatus, as taught by Miyajima, so as to seal a semiconductor device.

5. Regarding claim 2, Yamakawa discloses the component (A) contains siloxane units of formula $\text{RSiO}_{3/2}$ (col 3, line 58 – col 4, line 15). Regarding the limitation that the weight-average molecular weight as converted to polystyrene is equal to or exceeding 1500, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select such a range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

6. Regarding claim 3, Yamakawa discloses including a filler but does not disclose that its amount in the curable silicon composition is equal to or exceeds 60 wt %. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select a weight percent of 60 or greater, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Art Unit: 2812

7. Regarding claim 6, Yamakawa discloses curing the silicone body but does not disclose that the modulus of elasticity is equal to or less than 1 GPa. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a modulus of elasticity less than 1 GPa, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

8. Regarding claims 7, Miyajima discloses at least two semiconductor devices are sealed and then the sealed assembly is cut into separate sealed semiconductor devices ([0077]).

9. Regarding claims 10-11, Miyajima discloses the inner surfaces of the mold are covered with an attached release film ([0050]) and the release film is attached to the inner surface of the mold by air suction ([0053]).

Allowable Subject Matter

10. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REEMA PATEL whose telephone number is (571)270-1436. The examiner can normally be reached on M-F, 8:00-4:30 ET.

Art Unit: 2812

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on (571)272-2194. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. P./
Examiner, Art Unit 2812
05/06/09

/Alexander G. Ghyka/
Primary Examiner, Art Unit 2812